

CLAIMS:

1. A method of controlling radio resources in a telecommunications system supporting use of a plurality of data transfer rates in transmission of dedicated channels between a transmitter and a receiver, the method comprising:

adjusting a target signal-to-interference signal-to-interference to match a first data rate applied during a first transmission () time interval of the dedicated channel, the target signal-to-interference providing a reference signal-to-interference value for closed-loop power control; and

performing a comparison between a signal-to-interference measured from the dedicated channel transmitted at the first data rate and the target signal-to-interference, wherein a transmit power control command is provided to the transmitter according to the comparison.

2. The method of claim 1, further including predicting the first data rate from received signalling information.

3. The method of claim 1, further including:

estimating a change in a required signal-to-interference with respect to a change from a second data rate to the first data rate, the second data rate applied to the dedicated channel during a second transmission time interval transmitted prior to the first transmission time interval; and

adjusting the target signal-to-interference by using the change in the signal-to-interference and a target signal-to-interference that matches the second data rate.

4. The method of claim 1, further including adjusting the target signal-to-interference to provide a required quality of the dedicated channel.

5. The method of claim 1, further including:

indicating if the target signal-to-interference ratio falls outside a range of allowed signal-to-interference values; and

setting the target signal-to-interference to a value which falls within the range of the allowed signal-to-interference ratio values.

6. The method of claim 1, further including adjusting the target signal-to-interference ratio by using:

a target signal-to-interference ratio adjusted to match a second data rate applied in transmission of a second transmission time interval transmitted prior to the first transmission time interval;

an error indicator value characterizing the reliability of decoding a third coding block transmitted prior to the first transmission time interval;

a target $\left(\frac{E_b}{N_o}\right)$ value corresponding to the required quality of the dedicated channel transmitted at the second data rate; and

a target $\left(\frac{E_b}{N_o}\right)$ value corresponding to the required quality of the dedicated channel transmitted at the first data rate.

7. The method of claim 1, further including adjusting the target signal-to-interference ratio by using an error indicator value characterizing the reliability of decoding a third coding block transmitted prior to the first transmission time interval.

8. A system for controlling radio resources in telecommunications system supporting use of a plurality of data transfer rates in transmission of a dedicated channel transmitted from a transmitter to a receiver, the system comprising:

an adjusting unit connected to the receiver, for adjusting a target signal-to-interference ratio to match a first data rate applied during a first transmission time interval of the dedicated channel, the target signal-to-

interference ratio providing a reference signal-to-interference ratio value for closed-loop power control; and

a comparator to perform a comparison between a signal-to-interference ratio measured from the dedicated channel transmitted at the first data rate and the target signal-to-interference ratio, wherein a transmit power control command is provided to the transmitter according to the comparison.

9. The system of claim 8, further including a predicting unit, connected to the adjusting unit, for predicting the first data rate from received signalling information.

10. The system of claim 8, wherein the adjusting unit is configured to estimate a change in a required signal-to-interference ratio with respect to a change from a second data rate to the first data rate, the second data rate applied to the dedicated channel during a second transmission time interval transmitted prior to the first transmission time interval; and

wherein the adjusting unit is configured to adjust the target signal-to-interference ratio by using the change in the signal-to-interference ratio and a target signal-to-interference ratio that matches the second data rate.

11. The system of claim 8, wherein the adjusting unit is configured to adjust the target signal-to-interference ratio to provide a required quality of the dedicated channel.

12. The system of claim 8, wherein the adjusting unit is configured to indicate if the target signal-to-interference ratio falls outside a range of allowed signal-to-interference ratio values; and

wherein the adjusting unit is configured to set the target signal-to-interference ratio into a value which falls within the range of the allowed signal-to-interference ratio values.

13. The system of claim 8, wherein the adjusting unit is configured to adjust the target signal-to-interference ratio by using:

a target signal-to-interference ratio adjusted to match a second data rate applied in transmission of a second transmission time interval transmitted prior to the first transmission time interval;

an error indicator value characterizing the reliability of decoding of third coding block transmitted prior to the first transmission time interval;

a target $\left(\frac{E_b}{N_o}\right)$ value corresponding to the required quality of the dedicated channel transmitted at the second data rate;

a target $\left(\frac{E_b}{N_o}\right)$ value corresponding to the required quality of the dedicated channel transmitted at the first data rate.

14. The system of claim 8, wherein the adjusting unit is configured to adjust the target signal-to-interference ratio by using an error indicator value characterizing the reliability of decoding of third coding block transmitted prior to the first transmission time interval.

15. The system of claim 8, wherein the receiver is located in a mobile station and the transmitter is located in a base station.

16. The system of claim 8, wherein the receiver is located in a base station and the transmitter is located in a mobile station.

17. A radio network controller in telecommunications system supporting use of a plurality of data transfer rates in transmission of a dedicated channel from a transmitter to a receiver, the radio network controller comprising:

an adjusting unit connected to the receiver, for adjusting a target signal-to-interference ratio to match a first data rate applied during a first

transmission time interval of the dedicated channel, the target signal-to-interference ratio providing a reference signal-to-interference ratio value for closed-loop power control; and

means for generating a comparison between a signal-to-interference ratio measured from the dedicated channel transmitted at the first data rate and the target signal-to-interference ratio, wherein a transmit power control command is provided to the transmitter according to the comparison.

18. The radio network controller of claim 17, wherein the radio network controller further includes a predicting unit, connected to the adjusting unit, for predicting the first data rate from received signalling information.

19. The radio network controller of claim 17, wherein the adjusting unit is configured to estimate a change in a required signal-to-interference ratio with respect to a change from a second data rate to the first data rate, the second data rate applied to the dedicated channel during a second transmission time interval transmitted prior to the first transmission time interval; and

wherein the adjusting unit is configured to adjust the target signal-to-interference ratio by using the change in the signal-to-interference ratio and a target signal-to-interference ratio that matches the second data rate.

20. The radio network controller of claim 17, wherein the adjusting unit is configured to adjust the target signal-to-interference ratio to provide a required quality of the dedicated channel.

21. The radio network controller of claim 17, wherein the adjusting unit is configured to indicate if the target signal-to-interference ratio falls outside a range of allowed signal-to-interference ratio values; and

wherein the adjusting unit is configured to set the target signal-to-interference ratio into a value which falls within the range of the allowed signal-to-interference ratio values.

22. The radio network controller of claim 17, wherein the adjusting unit is configured to adjust the target signal-to-interference ratio by using:

a target signal-to-interference ratio adjusted to match a second data rate applied in transmission of a second transmission time interval transmitted prior to the first transmission time interval;

an error indicator value characterizing the reliability of decoding of third coding block transmitted prior to the first transmission time interval;

a target $\left(\frac{E_b}{N_o}\right)$ value corresponding to the required quality of the dedicated channel transmitted at the second data rate;

a target $\left(\frac{E_b}{N_o}\right)$ value corresponding to the required quality of the dedicated channel transmitted at the first data rate.

23. The radio network controller of claim 17, wherein the adjusting unit is configured to adjust the target signal-to-interference by using an error indicator value characterizing the reliability of decoding of third coding block transmitted prior to the first transmission time interval.